

When and how to Renovate an Alfalfa Field

This is a very pertinent question from Wyoming hay producers who harvest approximately 1.4 million tons annually from half a million acres.

Determining when to renovate an alfalfa stand depends on yield history and plant density of the field, along with the economic cost and projected benefits from renovation.

Stand longevity depends on many factors including harvest and/or grazing management, irrigation management, precipitation, soil type and fertility, pest pressures and variety of alfalfa.

Intensively managed stands, such as hay harvested for peak quality three times a season, typically last around six years, while other stands not intensively managed, such as one or two cuttings for lower quality hay, last 10 or more years.

Field-by-field historical yield records are the most reliable method for determining if a field needs renovation.

If these records are not available, then plant density on a plant per square foot basis can provide insight. Unfortunately, stand age or plant density alone does not indicate a stand needs rotated, this is why yield records are so important. There are stands that can produce more than 5 tons per acre after 10 years of longevity. Also, high yields have been observed in thin stands with two to five plants per square foot.

The focus shifts to the best method for renovating the stand once the decision has been made to renovate a field. Can the alfalfa stand be thickened with interseeding? Can alfalfa be planted back-to-back, or does it need separated with crop rotation?

Crop rotation is the most consistent way of achieving a good stand of alfalfa because it disrupts any disease cycles, allows opportunities for targeted weed control, adjustments to soil fertility, and spaces the alfalfa planting interval more than 18 months apart, which benefits avoiding auto toxicity problems.

Wyoming producers typically rotate to a forage grain, such as hay barley, oat barley, and forage wheat; however, this depends on the goals and crop production of an operation.

Planting back-to-back alfalfa stands without a crop rotation does not result in better stands when compared to crop rotated fields. Even though crop rotation provides the best option for a good stand of alfalfa, this is not always the most economical or maybe feasible option for every operation.

If attempting back-to-back planting, use one of the following methods:

1. Fall plow the old alfalfa with seeding in the early spring on a tilled seedbed.
2. Spring or summer seed on a tilled seedbed at least two weeks after plowing out the alfalfa.
3. For erosion-prone soils, seed directly in spring after a fall herbicide kill.
4. Seed in the summer at least three weeks after killing alfalfa with herbicide.

So what about interseeding into a stand to thicken?

Do not waste the time, money, and energy to attempt thickening a stand by reseeding. Alfalfa plants in an old stand can inhibit seedling alfalfa plants up to a radius of 15 inches around the plant. Thin stands interseeded typically result in the seedlings emerging and appearing to become established, but the seedlings consistently fail to become productive plants and eventually disappear from the stand.